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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|------------------------|---------------------|------------------|
| 10/718,839 | 11/20/2003 | Theodore J. Tarabulski | CCA-119 | 1894 |

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LAW OFFICE OF BARRY R LIPSITZ
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MONROE, CT 06468

EXAMINER

TRAN, DIEM T

ART UNIT PAPER NUMBER

3748

DATE MAILED: 01/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/718,839 | Applicant(s) TARABULSKI ET AL. | |
| | Examiner Dien Tran | Art Unit 3748 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

-This office action is in response to the amendment filed on 9/27/04. In this amendment, claims 1, 18 have been amended. Overall, claims 1-34 are pending in this application. The replacement drawing for figure 1 has been approved.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. (US Patent 6,725,651) in view of Geyer (US Patent 6,378,515).

Regarding claims 1, 2, 4, 5, 10, 15, 18, 19, 21, 22, 27, 32, Itoh discloses a method for reducing NOx emissions in diesel engine exhaust, comprising:

determining at least one engine operating parameter for each of a plurality engine operating conditions; temporarily using a NOx detector for detecting respective NOx emissions at each of said engine operating conditions (see col. 9, lines 9-18);

developing an injection strategy based on said at least one engine operating parameter at said respective operating condition and said respective detected NOx emissions (see col. 9, lines 14-26);

controlling the injection of a reagent into the exhaust at variable flow rate in order reduce NOx emissions at said various operating conditions in accordance with said injection strategy;

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wherein said variable flow rate of said reagent is controlled by a reagent injection controller in accordance with said injection strategy based on input one or more of said engine operating parameters (see col. 9, lines 14+); however, fails to disclose removing said NOx detector when the development of said injection strategy is completed. Geyer teaches that it is conventional in the art, to install a NOx detector for detecting NOx emissions at each engine operating conditions to create a table or tables in an engine model based on the data collected from the NOx detector and engine sensors and removing said NOx detector when engine model is completed (see col. 4, lines 20+).

It would have been obvious to one having ordinary skill in the art, to have utilized the teaching of Geyer in the method of Itoh, since the use thereof would have saved cost by not using an expensive NOx sensor.

Regarding claims 3, 20, Itoh further discloses that said reagent comprises aqueous urea reagent (see col. 9, lines 19-22).

Regarding claims 6-8, 23-25, Itoh further discloses that said injection strategy is downloaded to the reagent injection controller (see col. 9, lines 19-26).

Regarding claims 9, 11, 12, 26, 28, 29, Itoh further discloses specifying particular drive cycles of said vehicle to generate said plurality of engine operating conditions.

Regarding claims 13, 30, Itoh further discloses providing at least one SCR catalyst bed in an exhaust system having selective catalytic reduction properties enable conversion of said Nox emissions into water, nitrogen and carbon dioxide after interaction with said reagent (see col. 7, lines 1-5).

Regarding claims 14, 31, Itoh further discloses that said SCR catalyst bed comprises zeolite (see col. 7, lines 1-5).

Regarding claims 16, 17, 33, 34, Itoh further discloses that said NO_x is detected by a NO_x meter (21) located external exhaust system.

Response to Arguments

Applicant's arguments filed on 9/27/04 have been fully considered but they are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (571) 272-4866. The examiner

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can normally be reached on Monday -Friday from 8:30 a.m.- 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax number for this group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 800-786-9199 (toll-free).

DT
December 20, 2004



Diem Tran
Patent Examiner
Art unit 3748



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700